PHNL031386 PCT/IB2004/051286

21

**CLAIMS:** 

- 1. An optical record carrier comprising at least one content information layer and at least one user information layer arranged to be scanned through the content information layer by first radiation; the content information layer comprising at least one zone representing content information in a surrounding medium, the content layer being transparent for said first radiation and the zone and surrounding medium providing an optical, visual contrast for a different, second radiation.
- An optical record carrier as claimed in claim 1, wherein the at least one zone
  has a first transmission for said first radiation and a second, lower transmission for the second
   radiation.
  - 3. An optical record carrier as claimed in claim 1 or 2, wherein the first radiation has a first predetermined wavelength and the second radiation has a different, second wavelength.

15

5

- 4. An optical record carrier as claimed in claim 1 or 2, wherein the first radiation has a first predetermined polarization and the second radiation has a different, second polarization.
- 20 5. An optical record carrier as claimed in claim 4, wherein said zone comprises at least one birefringent material, the birefringent material being arranged such that the radiation of the second polarization experiences at least two different refractive indices when traversing the content information layer, whilst the radiation of the first polarization experiences substantially only a single refractive index when traversing the content information layer.
  - 6. An optical record carrier as claimed in claim 5, wherein the birefringent material is dispersed in a matrix material.

PHNL031386 PCT/IB2004/051286

22

- 7. An optical record carrier as claimed in claim 1, 2, 3 or 4, wherein said content information layer comprises a dye.
- 8. An optical record carrier as claimed in claim 4, wherein said dye is5 birefringent.
  - 9. An optical record carrier as claimed in claim 1, wherein said zone is at least one of: patterned, and arranged in a predetermined manner to provide visible content information to a user.

10

- 10. An optical record carrier as claimed in claim 9, wherein the content information layer has an area and comprises a plurality of substantially equally spaced and substantially opaque colored subareas.
- 15 11. An optical record carrier as claimed in claim 10, wherein said colored subareas have a size between 75 and 20000  $\mu$ m<sup>2</sup>.
  - 12. An optical record carrier as claimed in claim 11, wherein said colored subareas occupy a value selected from 10 to 30 % of the total the content information layer area and are substantially evenly spread over the total the content information layer area.
    - 13. An optical record carrier as claimed in claim 9, wherein the content information layer comprises a plurality of differently colored sublayers substantially equally transparent for the first radiation.

25

30

20

- 14. An optical record carrier as claimed in claim 13, wherein the content information layer has a substantially uniform optical thickness at the first radiation wavelength in order to minimize disturbance of the optical wavefront of the focused radiation beam during reading and writing of information from or onto the user information layer of the optical record carrier at the first radiation wavelength.
- 15. An optical record carrier as claimed in claim 14, wherein the content information layer further comprises a substantially optically transparent and flat cover layer facing away from the at least one user information layer.

PHNL031386

23

PCT/IB2004/051286

16. An optical record carrier as claimed in claim 9, wherein the content information layer comprises dielectric layers having antireflective properties at the first radiation wavelength, which dielectric layers represent the visible content information.

5

- 17. An optical record carrier as claimed in claim 1, wherein the record carrier is two-sided, at least one side having a content information layer and each side having a user information layer.
- 18. An optical record carrier as claimed in claim 1, comprising at least one zone wherein said zone combines at least two or more of the arrangements of claims 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 or 17.
- 19. An optical record carrier comprising at least one content information layer and at least one user information layer arranged to be scanned through the content information layer by first radiation; the content information layer comprising a material recordable to a pattern providing at least one zone representing content information in a surrounding medium, the content layer being transparent for said first radiation and the zone and surrounding medium providing an optical contrast for a different, second radiation.

20

25

- 20. A device for writing content information to a content information layer on an optical record carrier, the optical record carrier comprising:
- at least one content information layer and at least one user information layer arranged to be scanned through the content information layer by first radiation, the content information layer comprising recordable material;

the device being arranged to record said material of the content information layer so as to provide at least one zone pattern-wise representing the content information, the zone and its surrounding medium providing an optical contrast for a different, second radiation.

30

21. A method of writing content information to an optical record carrier, the optical record carrier comprising: at least one content information layer and at least one user information layer arranged to be scanned through the content information layer by first radiation, the content information layer comprising recordable material;

PHNL031386

PCT/IB2004/051286

24

the method comprising the step of recording said material of the content information layer so as to provide at least one zone representing the content information, the zone and its surrounding medium providing an optical contrast for a different, second radiation.

5

10

22. A method of manufacturing an optical record carrier, the method comprising: providing at least one user information layer arranged to be scanned by first radiation; and providing at least one content information layer comprising or recordable to provide at least one zone representing content information, the zone and its surrounding medium providing an optical contrast for a different, second radiation.